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L9: Entry 10 of 24

File: USPT

Apr 7, 1998

DOCUMENT-IDENTIFIER: US 5736399 A

TITLE: Medium-penetrating cell culture carrier, a culturing method and a device using this carrier

Detailed Description Text (18):

This multicellular aggregate comprising a culture carrier (particularly, silk mesh) and an aggregate of culture cells can be considered to be applicable as the graft for treatment of vulnuses, including ambustion and decubitus. In this case, with its proven records as suture non-biodegradable in a living organism, silk insures its safety when used in an organism.

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L10: Entry 4 of 7

File: USPT

Oct 16, 2001

DOCUMENT-IDENTIFIER: US 6303136 B1

TITLE: Cells or tissue attached to a non-degradable filamentous matrix encapsulated by a semi-permeable membrane

Brief Summary Text (13):

In one embodiment, the filamentous cell-supporting matrix, or scaffold, is made from any substantially non-degradable, biocompatible material. For example, the material can be acrylic, polyester, polyethylene, polypropylene, polyacetonitrile, polyethylene terephthalate, nylon, polyamides, polyurethanes, polybutester, silk, cotton, chitin, carbon, or biocompatible metals.

Detailed Description Text (5):

The filaments used to form the yarn or mesh internal scaffold are formed of any suitable biocompatible, substantially non-degradable material. Materials useful in forming yarns or woven meshes include any biocompatible polymers that are able to be formed into fibers such as, for example, acrylic, polyester, polyethylene, polypropylene, polyacrylonitrile, polyethylene terephthalate, nylon, polyamides, polyurethanes, polybutester, or natural fibers such as cotton, silk, chitin or carbon. Any suitable thermoplastic polymer, thermoplastic elastomer, or other synthetic or natural material with fiber-forming properties may be inserted into a pre-fabricated hollow fiber membrane or a hollow cylinder formed from a flat membrane sheet. For example, silk, PET or nylon filaments used for suture materials or in the manufacture of vascular grafts are highly conducive to this type of application. In other embodiments, metal ribbon or wire may be used and woven. Each of these filament materials has well-controlled surface and geometric properties, may be mass produced, and have a long history of implant use. In certain embodiments, the filaments may be "texturized" to provide rough surfaces and "hand-holds" onto which cell projections may attach. The filaments may be coated with extracellular matrix molecules or surface-treated (e.g. plasma irradiation) to enhance cellular adhesion to the filaments.